Example of Scoring Approach

Evaluation Factor	Scoring Basis	Metric
Open Water Disposal		
Existing Habitat Types		
Mudflats and Sandflats	Distance, Current direction	H, M, L, 0
Spawning/Nursery Habitat		
Submerged Aquatic Vegetation		
Fisheries Feeding/Migration Habitat	Specific species info	H, M, L,
Benthic Habitat	Presence/Absence	U, H, M, L, 0
(i.e. unique, hard bottom) mussel, complex habitats	Descriptive categories of habitats to avoid to avoid	
Beneficial Use		
Site Characteristics		
Physical Area	Size of site (sq. ft.)	Minimum size
Site Capacity	Capacity of site (c.y.)	Minimum capacity
Current Patterns, Water Circ.	Ranges of near-bottom current velocity, potential for change	U,H,M,L,0
Exposure to storm events, boat wakes	Wave climate	U,H,M,L,0
Ambient sediment conditions/type	Depositional, reworking erosive	H,M,L,0
Bathymetry	Depth	H,M,L,0
Upland Sites		
Threatened & Endangered Species		
Federally Listed Threatened and Endangered Species	Presence/Absence	U/0
State Listed Rare/Endangered Species or those of State Concern	Distance/Migratory Patterns, Species Description, Range	H,M,L,0
Treatment Technologies		
Impacts and Effectiveness		
Airborne Discharge of Contaminants	Type, emissions, distance from receptors	U,H,M,L,0
Noise of Operations	Decibels, distance, duration, intensity	
Stability of Product	Contaminant isolation	Yes, No, degree
Reduction in Contaminant Availability	Contaminant elimination	Yes, No, degree

Key:

U = Unacceptable H = High impact M = Moderate impact
L = Low impact 0 = No impact

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SS2K001c

Fact Sheet #1 - April 2000

EPA United States Environmental Protection Agency

US Army Corps of Engineers
New England District

Long Island Sound Dredged Material Disposal EIS

Evaluation of Disposal Alternatives

Background

In October 1999, the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (the Corps) hosted workshops to discuss building blocks for the Environmental Impact Statement (EIS) for the designation of dredged material disposal site(s) in Long Island Sound. One of the topics discussed was the process for screening and evaluating disposal alternatives. This screening process is to be based on a set of evaluation factors that were also presented and discussed. During those workshops, attendees requested that the evaluation factors be linked clearly to the criteria of the Marine Protection, Research and Sanctuaries Act (MPRSA) and other environmental regulations, and be weighted in terms of importance to the stakeholders. In response, the EPA and the Corps, with input from other federal and state agencies, is proposing a strategy and process for weighting those factors in the screening of disposal alternatives. The results will be used to identify alternatives to be analyzed in the EIS. We invite the public's input on a proposed approach, as described below.

Methods Considered for Weights and Values

The EPA and the Corps reviewed various methods for assigning weights and values to the evaluation factors. The assignment of weights and values will be a highly iterative and interactive process. Pros and cons of each approach were considered. Various methods include quantitative mathematical approaches; application of professional judgment of technical experts; and assignment of values by multi-interest stakeholders. Some methods allow for independent scoring by participants; others require consensus. Some methods provide for early input of weights/values from diverse interests; with other methods, differences may arise late in the process during the evaluation of specific sites. Some methods rely on technical expertise of a small group; others rely on public opinion of a large, potentially disparate group. Some are complex to implement, while others may appear more expeditious early on, but have a greater chance of complexity toward the end of the process. The variety and number of interests represented in the process directly correlates to the balancing of interests involved in the assignment of values. For example, are environmental and economic concerns assigned equal weight?

With all these considerations, the EPA and the Corps, with input from stakeholders, federal and state agencies, wish to apply an approach that takes the best from each of the different approaches and minimizes the negatives. As a result, a "blended" approach is proposed.

Proposed Approach

The proposed approach blends the best of all considered methods: early and ongoing input; customized scoring; and geographic information system (GIS) support.

Early/Ongoing Input

The proposed approach provides for the early and ongoing input from a broad base of stakeholders, technical and regulatory experts in assigning weights and values.

Scoring

The proposed approach includes flexibility in the assignment of scores for each factor based on such characteristics as presence or absence of a significant resource (such as Threatened or Endangered species); or high (H), medium (M), and low (L) impact, as pertinent. For example, H, M, or L may be sufficient for those factors that aren't well-suited to quantitative scoring. Scoring metrics could include engineering considerations (such as site acreage), a numeric scale (such as 1-10), or other methods.

GIS Support

The proposed approach employs a geographic information system (GIS) database for assisting the participants in testing the results and integrating rankings with the screening process. For example, if there is an important environmental resource and it is represented by an "H", the participants can see how much area is excluded from consideration for site selection and if lesser or greater distances are more appropriate.

Stakeholder Process Groups

Three interacting groups are envisioned, as shown in Figure 1. The proposed process employs a combination agency/technical/stakeholder team structure based on the type of alternative to be addressed.

Planned are multiple reviews and revisions at various stages of the alternative site screening process, from development of the overall framework to specific assignment of weights and values to individual evaluation factors, to the evaluation of specific disposal alternatives and site screening.

- **Project Group** - U.S. Environmental Protection Agency (EPA) Regions 1 and 2 and the New England and New York Districts of the U.S. Army Corps of Engineers (the Corps).

- **Interagency Group** - Participation from federal and state agencies. This group will provide input to the overall framework and provide regulatory guidance to the process. These group members will provide first cut review and comment on the proposed framework and strategies provided by the project group. The project group then revises initial proposals based on that review. Proposed representatives include:

  - National Marine Fisheries Service (NMFS)
  - U.S. Fish and Wildlife Service (FWS)
  - Office of Long Island Sound Programs (OLISP)
  - Connecticut Department of Environmental Protection (CTDEP)
  - New York Department of State (NYDOS)
  - New York State Department of Environmental Conservation (NYSDEC)
  - Empire State Development Corporation (ESDC)
  - New York City Economic Development Commission (NYEDC)
  - Rhode Island Coastal Resources Management Council (CRMC)
  - Rhode Island Department of Environmental Management (RIDEM).

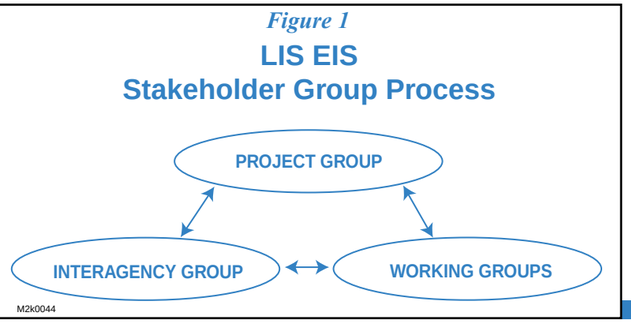
- **Working Groups** - The public's participation is invited to serve on various working groups. The groups will be responsible for rolling up their sleeves in the evaluation of disposal alternatives. One of the steps will be to determine the weights and values to be applied to the screening of disposal alternatives. The groups will be organized according to the following topics:

  - Open Water Disposal
  - Beneficial Use of Dredged Material
  - Upland Disposal
  - Treatment Technologies.

These groups may conduct concurrent reviews as information is developed.

Figure 1

LIS EIS
Stakeholder Group Process



Steps Proposed to Assign Weights and Values

Step 1 - Present and Review Draft List of Evaluation Factors

At the October 1999 workshops, evaluation factors were presented and discussed for the various disposal alternatives. For each alternative, specific factors and goals were listed.

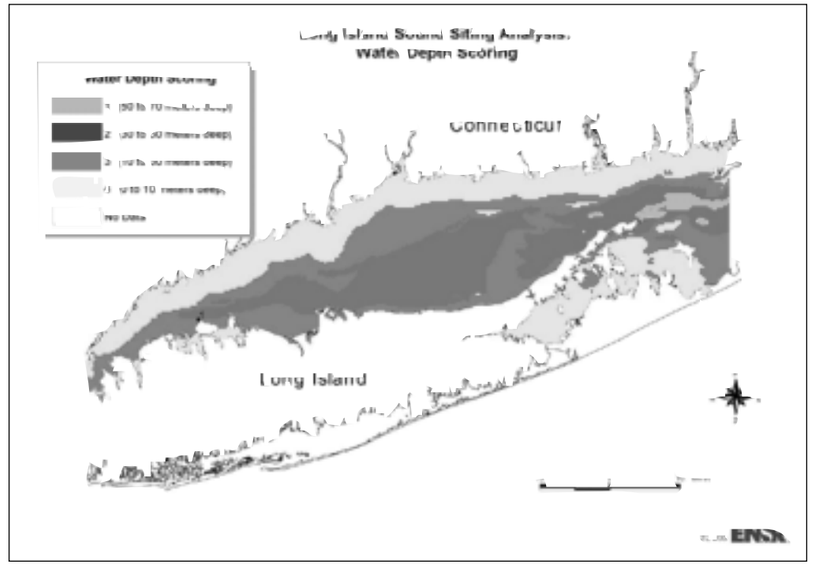
Step 2 - Draft Scoring Approach Strategy

The project group drafted an approach (as described in this fact sheet) based on the evaluation factors as reviewed at the public workshops in October 1999. A scoring approach is proposed for each of the disposal alternatives. An example is provided in the table (next page) for each type of alternative.

Step 3 - Create Working Groups, Refine and Implement Process

Participation on working groups will be solicited at the April workshops. As follow-up to the workshops, the individuals on each team will be expected to roll up their sleeves and review, revise and further refine the proposed factors and scoring approach and go through the site selection process. The screening and selection of candidate sites will be assisted through the application of the GIS database for the Sound. These efforts will be provided to the project and interagency groups and further refined, based on a highly iterative and interactive process. A final decision on the alternatives to be evaluated in the EIS will take into consideration all input and recommendations gathered from the groups.

Example of GIS Application to Scoring



The figure above shows an example of scoring for water depth, in which water more than 50 meters deep is scored “1” for most suitable, down to water shallower than 10 meters, scored “4” for least suitable.